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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,614	08/19/2003	Alan Niedzwiecki	70278.020100	5985

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GREENBERG TRAURIG LLP
Suite 400E
2450 Colorado Avenue
Santa Monica, CA 90404

EXAMINER	
ONEILL, KARIE AMBER	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/644,614	NIEDZWIECKI ET AL.	
	Examiner	Art Unit	
	Karie O'Neill	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2-3-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2 and 4-24 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/408,055. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application requires a solid oxide fuel cell generator comprising a solid oxide fuel cell and the copending application requires a fuel cell generator comprising a fuel cell.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 recites the limitation "a pre-reformer within the trailer" in line 5. There is insufficient antecedent basis for this limitation in the claim. A trailer is not previously mentioned in this claim.

With respect to Claims 10, 11, 15 and 23, it is unclear if the applicant intends for the trailer to be a structural part of the invention when the claims are directed to a solid oxide fuel cell generator. For examining purposes, "the trailer" will be considered as an enclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2 and 5-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (US 6,660,417) in view of Caci et al. (US 2004/0190229 A1).

Nishio et al. discloses in Figures 1 and 2, a fuel cell generator including a general fuel cell (1), a hydrogen storage device (5) composed of hydrogen cylinders (51) which supply hydrogen to the fuel cell stack through a hydrogen pipe (6) provided with a valve (14) disposed downstream of a conveying pump (52). He also discloses an oxygen storage device (16) composed of an oxygen cylinder, an oxygen pipe (7) equipped with a valve (18), and a conveying pump for supplying oxygen to the fuel cell stack (1). The fuel cell generator is equipped with a controller, which controls the valves (13 to 15) and the switches (11 and 12) that operate and turn on and off the valves and switches. Nishio et al. also discloses an inverter (2) for converting direct current power into alternating current power, and a converter (3) for converting alternating current power into direct current power, wherein the system controller controls the switches that control the inverter, converter and conveying pumps.

Nishio et al. does not expressly disclose the fuel cell generator as being a solid oxide fuel cell, as comprising a portable enclosure containing the fuel cell stack, having the hydrogen and oxygen storage means being at least partially within the enclosure, further comprising a trailer onto which the portable enclosure is removably mounted, has a moving means of at least one axle with one wheel at each end and affixed to the

enclosure. He also does not disclose the voltage of the DC output of the fuel cell stack being stepped down.

Caci et al. discloses in Figure 1A, a self-sustaining environmental control unit (SECU) (100), which contains any type of fuel cell (103), including a solid oxide fuel cell, and fuel system such as hydrogen and oxygen (101), housing components in an enclosure (109). Paragraph 0036 discloses the enclosure being adapted for a mobile environment. In Figure 3, a trailer provides mobility for the enclosure to be mounted to the trailer, which includes at least one axle with wheels at each end. This trailer can also be interpreted as being a sled because by definition a sled is for transportation and is a frame mounted on at least one axel. Paragraph 0037, discloses that the fuel cell system can be used in mobile environments other than a trailer and can also be disassociated from the trailer and installed in a cell tower or unmanned fixed shelter or building after being transported. In paragraph 0057, Caci et al. discloses the conversion of DC voltage to AC voltage and a power supply subsystem includes switching and voltage regulation for final power conditioning before use and is capable of switching the voltage as needed by electronics.

Nishio et al. and Caci et al. are analogous art because they are from the same field of endeavor, fuel cells. At the time of the invention it would have been obvious to one of ordinary skill in the art to place the fuel cell stack of the Nishio et al. reference into an enclosure and mount it on to a trailer, as in the Caci et al. reference, for the purpose of protecting the components of the fuel cell stack from the harsh environment and to make the fuel cell stack mobile. It would have been obvious to provide a

mechanism for conditioning the power by being able to step the voltage of the DC voltage so as to control how much energy is stored and be able to direct energy to and from the energy storage system.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gillett et al. (US 5,741,605) in view of Nishio et al. (US 6,660,417).

Gillett et al. discloses in Figure 1, a solid oxide fuel cell generator (10) comprising: a portable enclosure (12); a solid oxide fuel cell stack (24, 26) within the enclosure (column 9 lines 64-67); feed oxidant supply and distribution tubing with the enclosure (column 10 lines 1-3), and; a hydrogen carbon fuel supply and a prereformer within the enclosure (column 8 lines 58-60). Gillett does not disclose a power condition means and at least one system controller.

Nishio et al. discloses in Figures 1 and 2, an inverter (2) for converting direct current power into alternating current power, and a converter (3) for converting alternating current power into direct current power, wherein the system controller controls the switches that control the inverter, converter and conveying pumps (column 4 lines 30-34).

Gillett et al. and Nishio et al. are analogous art because they are from the same field of endeavor, fuel cells. At the time of the invention it would have been obvious to one of ordinary skill in the art to combine a power condition means and a system controller with the fuel cell generator of Gillett et al. for the purpose of being able to

convert AC power to DC power and vice versa and to be able to control when and how much of this power is needed.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (US 6,660,417) and Caci et al. (US 2004/0190229 A1) and in further view of Yoshimura et al. (US 6,722,858).

Nishio et al. and Caci et al. disclose the fuel cell generator of Claim 1 above, but do not disclose that the compressor means comprises an oil-cooled compressor.

Yoshimura et al. discloses in column 1 lines 8-12, that oil-cooled type compressors are widely known in the art.

Nishio et al., Caci et al. and Yoshimura et al. are analogous art because they are from the same field of endeavor, fuel cells. At the time of the invention it would have been obvious to one of ordinary skill in the art to use the oil cooled compressor of Yoshimura et al. in the fuel cell generator of Nishio et al. and Caci et al. for the purpose of saving on power consumption.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al. (US 6,660,417) and Caci et al. (US 2004/0190229 A1) and in further view of Gillett et al. (5,741,605).

Nishio et al. and Caci et al. disclose method of fuel cell generated electrical power of Claim 22 above, but do not disclose the fuel supplied being hydrocarbon reformate and oxygen from compressed atmospheric air.

Gillett et al. discloses in column 8, reformation of natural gas and other fuels containing hydrocarbons for use as the fuel cell fuel (lines 56-60) and air or oxygen used as the oxidant gas (lines 23-25).

Nishio et al., Caci et al. and Gillett et al. are analogous art because they are from the same field of endeavor, fuel cells. At the time of the invention it would have been obvious to one of ordinary skill in the art to use a hydrocarbon reformate and oxygen from compressed air as the fuel and gas supplied to the fuel cell of Nishio et al and Caci et al. for the purpose of reacting with one another to deliver electrons and produce electricity (Gillett column 7 lines 50-52).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAO

MICHAEL BARR
SUPERVISORY PATENT EXAMINER